

**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

Michihiro OHSUGE

Appln. No.:

Group Art Unit: Unknown

Confirmation No.: Unknown

Examiner: Unknown

Filed: April 09, 2001

For: MULTI-PATH DETECTING CIRCUIT AND SYSTEM

**PRELIMINARY AMENDMENT**

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Prior to examination, please amend the above-identified application as follows:

**IN THE CLAIMS:**

**Please enter the following amended claims:**

3. (Amended) The multi-path detecting circuit according to one of claims 1 or 2, comprising a long period profile storing part for storing the output of the long period delayed profile averaging part.
5. (Amended) The multi-path detecting circuit according to one of claims 1 or 2, wherein the short period is set to about 10 msec., and the long period is set to about 100 msec.
6. (Amended) The multi-path detecting circuit according to one of claims 1 or 2, which is used for a CDMA receiver having a RAKE finger part, to which the timing output from the finger timing determining part is supplied.

11. (Amended) A CDMS receiver using the multi-path detecting system according to any one of claims 7-10 comprising:

- an antenna part for receiving radio transmitted data;
- a high frequency signal receiving circuit for frequency converting the received signal;
- an A/D converter part for converting the output of the high frequency signal receiving circuit from analog signal to digital signal;
- the multi-path detecting circuit for receiving signal from the A/D converter part, detecting multi-path timing and determining the detected multi-path timing as reception timing input to RKE finger part; and
- a RAKE synthesizing part for synthesizing data from the RAKE finger part as received at each timing.

**Please add the following new claims:**

- 12. The multi-path detecting circuit according to claim 3, wherein the short period is set to about 10 msec., and the long period is set to about 100 msec.
- 13. The multi-path detecting circuit according to claim 4, wherein the short period is set to about 10 msec., and the long period is set to about 100 msec.
- 14. The multi-path detecting circuit according to claim 3, which is used for a CDMA receiver having a RAKE finger part, to which the timing output from the finger timing determining part is supplied.

15. The multi-path detecting circuit according to claim 4, which is used for a CDMA receiver having a RAKE finger part, to which the timing output from the finger timing determining part is supplied.

16. The multi-path detecting circuit according to claim 5, which is used for a CDMA receiver having a RAKE finger part, to which the timing output from the finger timing determining part is supplied.

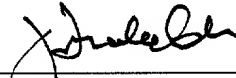
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**REMARKS**

Claims 1-16 are pending in the present application. Claims 2, 5-6, and 11 have been amended to delete improper multiple dependencies. Claims 12-16 have been added to retain the same scope of coverage as in the claims 2, 5-6, and 11 prior to the present Preliminary Amendment. The public should be advised that the present Preliminary Amendment is not considered or intended to be a narrowing amendment surrendering any equivalents.

Entry and consideration of this Amendment is respectfully requested.

Respectfully submitted,



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Date: April 9, 2001

**APPENDIX**

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

**The claims are amended as follows:**

3. The multi-path detecting circuit according to one of claims 1 ~~and~~or 2, comprising a long period profile storing part for storing the output of the long period delayed profile averaging part.

5. The multi-path detecting circuit according to one of claims 1 ~~to 4~~or 2, wherein the short period is set to about 10 msec., and the long period is set to about 100 msec.

6. The multi-path detecting circuit according to one of claims 1 ~~to 5~~or 2, which is used for a CDMA receiver having a RAKE finger part, to which the timing output from the finger timing determining part is supplied.

11. A CDMS receiver using the multi-path detecting system according to any one of claims 7-10 comprising:

an antenna part for receiving radio transmitted data;

a high frequency signal receiving circuit for frequency converting the received signal;

an A/D converter part for converting the output of the high frequency signal receiving circuit from analog signal to digital signal;

the multi-path detecting circuit for receiving signal from the A/D converter part, detecting multi-path timing and determining the detected multi-path timing as reception timing input to RKE finger part; and

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a RAKE synthesizing part for synthesizing data from the RAKE finger part as received at each timing.

**Claims 12-16 are added as new claims.**